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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/719,594	03/09/2001	Frank Kuehnel	00694635	3379

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EXAMINER

GONZALEZ, JULIO C

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 03/20/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/719,594

Applicant(s)

KUEHNEL ET AL.

Examiner

Julio C. Gonzalez

Art Unit

2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 January 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-11 and 13-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-11 and 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 06 January 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the position sensors been between the coils as disclosed in claim 23 and the solvent disclosed in claim 8 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

2. The drawings are objected to because illustration of the invention is not clearly shown. The sensors are not clearly shown. An important feature of the invention, the magnetic bearings and the leads are not point out in the drawings. The connecting leads and the terminal contacts seem to be the same component. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 7-11 and 13-24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 7, the claim discloses “at least one rotor bearing permanent magnets”. Is the limitation referring to a permanent magnet rotor or to permanent magnet bearings? Are the bearings made of permanent magnets?

In claim 10, what is considered a “pulse wire”?

In claim 23, the sensors are disclosed to be between the coils, but from the figures, it would seem like if the sensors are adjacent axially with respect to the coils.

In order to advance prosecution in the merits, the Prior Art will be applied as best understood by the examiner.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 7, 9, 10, 13, 15, 16, 18, 21, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vuillemin et al in view of Persson et al and Uno et al.

Vuillemin et al discloses an electric motor having a rotor 6, position sensor 14, 24, a current induced by a magnetic field which is sent through the coils (see figure 1). Moreover, the rotor has position magnets away the permanent magnets (column 2, lines 1, 2) and opposite the position sensor. Also, Vuillemin et al discloses using a motor with magnetic bearings (see figure 1).

However, Vuillemin et al does not disclose using a sensor been made integrally with electrical conductors.

On the other hand, Persson et al discloses for the purpose of effectively sensing the rotational position between the stator and rotor, a sensor 38, conductor 46a, coil 44, which may be connected to terminal 52 (see figure 5).

However, neither Vuillemin nor Persson et al disclose a rotor permanent magnet.

On the other hand, Uno et al discloses for the purpose of providing a motor which is capable of operating at high speeds with less vibrations, a motor with a shaft 1, a permanent magnet rotor 2 having magnets 4 (see figure 2). Uno et al also discloses using magnetic bearings (see abstract).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design a motor as disclosed by Vuillemin et al and to modify the invention by using a sensor with a conductor wire for the purpose of effectively sensing the rotational position between the stator and rotor as disclosed by Persson et al and to use a permanent magnet rotor for the purpose of providing a motor which is capable of operating at high speeds with less vibrations as disclosed by Uno et al.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vuillemin et al, Persson et al and Uno et al as applied to claim 7 above, and further in view of Nakamura et al.

The combined motor discloses all of the elements above. However, the combined motor does not disclose that the rotor operates in the presence of solvents.

On the other hand, Nakamura et al discloses for the purpose of reducing disturbances in the distribution of electric lines, an electrical machine that has chambers 7b, 7a that are filled with fluid and thus the rotor operates in the presence of fluids (see figures 6, 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined motor as disclosed above and to use a motor that operates in the presence of fluids for the purpose of reducing disturbances in the distribution of electric lines as disclosed by Nakamura et al.

9. Claims 11, 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vuillemin et al, Persson et al and Uno et al as applied to claims 7 and 15 above, and further in view of Skybyk.

The combined motor discloses all of the elements above. However, the combined motor does not disclose having a disk with magnets.

On the other hand, Skybyk discloses for the purpose of increasing the overall energy efficiency of motors, a motor having a shaft, a first and second disks 112, 114 having a second set of magnets 30, 128 (see figure 11) wherein the disk are arranged for rotation about the shaft (see figure 12).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to design the combined motor as disclosed above and to use a disk with magnets for the purpose of increasing the overall energy efficiency of motors as disclosed by Skybyk.

10. Claims 14, 17 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vuillemin et al, Persson et al and Uno et al as applied to claims 9, 16 and 18 above, and further in view of ordinary skill in the art.

The combined motor discloses all of the elements above. However, the combined motor does not disclose the material of the wires.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use copper material for the wires, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In *re Leshin*, 125 USPQ 416.

Response to Arguments


Applicant's arguments with respect to claims 7-11, 13-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julio C. Gonzalez whose telephone number is (703) 305-1563. The examiner can normally be reached on M-F (8AM-5PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nestor Ramirez can be reached on (703) 308-1371. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 305-1341 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


JOSEPH WAKS
PRIMARY EXAMINER

Jcg

March 17, 2003